THE OPTICAL MAGIC LANTERN JOURNAL AND PHOTOGRAPHIC ENLARGER.

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Notices.

The *Optical Magic Lantern Journal and Photographic Enlarger* is issued on the 15th of every month, price One Penny, and may be obtained from all Newsvendors, Railway News Stalls, Photographic Dealers, or from the Publishers, at the following rates, post free:—

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TO OUR READERS.

THIS journal is intended to fill a void in our serial literature devoted to popular science. The magic or optical lantern, so long a mere toy, has, during late years, and since the application of photography to the preparation of the slides, gradually been assuming a higher phase; until at last it has become one of the best recognised agencies in education, and an instructive instrument in applied science.

The lantern has hitherto not had in this country any serial organ devoted exclusively to it, and it is to supply this vacancy in our literature that this journal is devoted.

It will be our aim to keep our readers *au courant* with all that transpires in the world of lanternists, and supply useful practical information regarding every one of its numerous phases and applications, its mechanics, its optics, and its illumination. The art of preparing and colouring slides of every class will be fully treated, the operations of exhibitors amply recorded; while all that is new in the form of inventions, patented and unpatented, will find a place in its columns. Added to this, it will be the endeavour of the Editor to present with frequency those numerous experiments which are capable of being shown by the lantern in the domestic circle for the amusement and instruction of the spectators.

The now popular application of the lantern to the production of photographic enlargements will be treated with fulness and care, and the various means adopted by our best workers in this department will be practically indicated and described.

Readers are respectfully requested to keep us apprised of any matters transpiring in their own experience or among the circles of their acquaintance of a nature calculated to prove of interest to the general body of our readers.

EDITOR.

The Magic Lantern: Its Construction, Illumination, Optics & Uses.

Chapter I.—The Lantern Body.

WHILE it makes no difference whether a lantern is formed of tinware, iron, or wood, it certainly does make a very great difference in the estimate formed of it by spectators in the school-room or lecture-hall. It ought not to be so, but it certainly is the case, that in the lantern, equally as certain as in human beings, a showy exterior frequently elicits an admission greatly in excess of opposing feelings germinated by possible shortcomings in performances, and, like charity, cloaks a multitude of errors. For this reason it is well that the body of the lantern be made as much as possible a thing of beauty. Understand, it adds nothing to the real working of the instrument, which depends upon the illumination and optical portion, hereafter to be treated.

Your wife or daughter will be quite as amiable, domesticated, and intellectual in a calico gown as in the silks and satins they don for the drawing-room, and the diamond will be of the same intrinsic value when forming the eye of the Eastern idol as when it is transferred to its gorgeous setting of the Western jeweller; and so with the lantern.

Given a good inside, and the exterior, except for the purpose referred to, is of minor consequence.

After all, what is the body of the lantern, and what are its functions? Merely a means of preventing the light from passing out and being distributed over the room, which has to be kept in darkness.

Tin, or more accurately, tinware, forms the simplest material of which the body may be constructed. It must, of course, be japanned, and the junctions at sides and top must be made by overlaying and rivetting, and not by solder, which, especially near the top, is apt to be melted by the heat from the lamp.

It is especially necessary that the chimney be rivetted together, the greatest heat being here; and both in chimney and everywhere else the light must be trapped, so as to prevent its escape.

Russian iron, or any other iron possessing similar characteristics, is an admirable material out of which to construct the body of the lantern. It has a smooth, unpretending elegance about it with which japanned tin cannot compete for a moment; added to which it is very rigid and durable. If it gets dirty owing to its being stored away in a damp place, it may easily be restored to its pristine beauty by being rubbed with a rag charged with paraffin oil, to which has been added a little Florence oil or sweet oil.

In a wooden lantern it is necessary that there be an inner lining of tin or thin sheet iron. This should not, as used to be the case, be placed in close contact with the wood, but should be at least a quarter-of-an-inch from it, allowing an air space to intervene. It should be made of seasoned mahogany, and by preference there should be a door on each side to permit of easy access to the interior. It should also have a small, circular, deeply-coloured blue pane of glass in each door, to enable the state of the light to be ascertained without having the trouble to throw open the door. This should also be the case with the metal lanterns as well as the wooden ones.

Brass fittings and fronts by all means for the wooden bodies, unless where strict economy prevents it. It adds so much to the apppearance of a lantern, that when one is going in for a wooden one, at any rate, it is wise to incur just a little more expense, and have the entire front fittings of brass. Nevertheless, as already stated, fittings formed of tin will work equally well. Our present remarks have reference only to appearances.

Concerning the general shape of the body little need be said. While some are formed of a cylindrical tube, and others still more of an arched form, the great majority of lanterns, at least in this country, have square bodies.

It is, however, the lighting and optical parts that determine the real quality of the lantern, and these fall to be treated in our next and subsequent numbers.

Various Names by which the Lantern is Known.

IT is scarcely saying too much when we assert that not only has each country its own variety of designation for the lantern, but that each maker has adopted special titles by which his own productions are sought to be made known.

Starting with the good old-fashioned name by which this instrument has been so long known we have the Magic Lantern, upon which an improvement has been sought to be made, and a higher and more scientific tone given by the term Optical Lantern. Again we have the Projecting Lantern, the meaning of which is obvious. Then the

- Stereopticon or Dissolving Lantern (to see solid).
- Phantasmagoria (ghost-like).
- Sciopticon (shadow).
- Triplexicon (having three wicks).
- Dioptric (refraction).
- Binoptric (prismatic lantern).
- Trinoptric (three with one light).
- Biunial (one lantern above the other).
- Triunial (three lanterns one over the other).
- Photogenic (light producing).
- Pamphengos (intense light).
- Pantaphane (having five lights).
- Aphengescope (without light).
- Megascope (to see large).
- Euphaneron (having four lights).
- Polyopticon (viewed by a multitude).
- Oxy-hydrogen Lantern (lime light).
- Bijou (in small size).
- Photinus.
- Cyclexicon (comprehensive).
- Helioscopic (sun or light).
- Metamorphoser (moveable stage).
- Cylindrical (circular body).

And numerous others having trade names, which convey no definite meaning as to their construction.

Diagram Slides Without the Aid of Photography.

A READY means of preparing an illustration for the lantern on the spur of the moment is by coating a glass with benzole varnish containing a few drops of india rubber solution. This is quite transparent when dry. As it possesses the property of retaining marks made with Indian ink, it may be either written upon or placed over any picture or outline, and a tracing made. If carbolic acid (one part to eight of the ink) be added, the ink will not only dry more readily, but varnish may be applied over it without any chance of its being discharged.

Another and perhaps easier means by which this may be effected consists in wetting a plate of glass by licking it with the tongue. After it has been allowed to dry, it may then be written upon with a fine pen and copying ink, or ordinary writing ink containing a little sugar. The glass thus prepared may be placed over a picture and the desired lines traced upon the glass. The lines will now appear very feeble, but upon examination they will be found to be perfectly formed. In order that they may be seen by the lantern, it is necessary that the lines be strengthened by more opacity being imparted to them, either over all or, if desired, in certain places only. This may be done by gently rubbing over them a tuft of cotton wool charged with lampblack. Caricatures from comic papers may be thus copied and prepared for the lantern all in a few minutes, affording amusement to the spectators. In this way also may diagrams be made to serve as illustrations for a lecture. Its application to geography, by showing any portion of a map, will suggest itself.

◆

The Smell of Oil in the Lantern.

WHO that employs a lantern having an oil lamp as its illuminant but what indulges in strong language, or at any rate thinks it, at the smell occcasionally emitted?

After all is said in favour of the limelight—and no one admits its value or can speak more strongly in its praise than the writer—there are innumerable occasions in which the oil lamp, owing to its readiness is to be preferred. For example, a parlour entertainment of an improptu nature given to the domestic circle or to a few friends who have dropped in to spend a spare half-hour before supper; an examination of the slides obtained during the outing of the last holiday; the projection on the screen of a few comic slides for the amusement of the children before sending them off to bed; or the illustration of some Bible story by means of the numerous excellent slides now so easy to be procured for such a purpose. These and occasions of a like kind are such as are capable of being carried into practical effect much more readily by the oil lamp than by the limelight. The one drawback to perfect enjoyment—the fly in the ointment—is the offensive smell not unfrequently given off by the paraffin oil or petroleum; and yet it is not at all difficult to so minimise this evil as to cause its practical annihilation.

It is not the oil in the reservoir that emits the smell, nor is it that which rises by the capillary attraction of the wick and becomes converted into flame, but it is that, and that alone, which in some inscrutable manner insinuates itself out from the wick when the lamp is cold, and which spreads with scarcely a palpable moisture over the surface of the reservoir or the burner.

The means of preventing this are very simple, and consist in pouring out the oil from the reservoir into a bottle at the close of each entertainment and carefully wiping the surface of the lamp before placing it away. If the lamp is then kept dry and is only charged with oil before being used next time, no smell will arise, as this is caused by the vaporization of the oil as already described. It is also of importance to remove the wick from the lamp and dry it.

It need scarcely be said that wicks should be trimmed very carefully so as to leave no tags on the surface which give rise to spurts of flame and seriously interfere with the quality and power of illumination; but the trimming of the wick is not a subject requiring consideration in this article, which has only to do with the smell.

If the simple directions which I have given are followed, and if, in addition, the lamp is not brought into the parlour until after it has been lighted for a few minutes, there will be no further cause for complaint. C.

◆

Enlarging on Permanent Bromide Paper.

By G. D. Milburn.

THE process of making bromide enlargements from small negatives is very simple. To the professional photographer it is a source of profit, and to the amateur a great pleasure; from a very small negative you can produce as fine a large picture as the finest engraving, and it is now well known that when a bromide print is properly made it is permanent in the full sense of the word. An easy way to construct a bromide enlarging apparatus, out of apparatus on hand, is to take your front focussing view camera; place your negative in a proper size plate-holder, and adjust the negative so as to be upside down inside of the ground glass—that is, negative and film of negative next the lens. Place the camera on a small table, and move the table and back of camera against the window in an ordinary small room. Shut out all the white light in the room, except that which enters through the ground glass of camera.

A magic lantern, with oil-burner, can be used instead of day-light apparatus described above. Extra quick bromide paper can be had for that purpose. Use any good lens that is capable of covering the size plate you intend to enlarge from. Then you want an upright easel to suspend your bromide paper on, which is easily constructed out of two uprights, a flat board and a box of suitable size to serve as a base. The face of the easel should be covered with white paper.

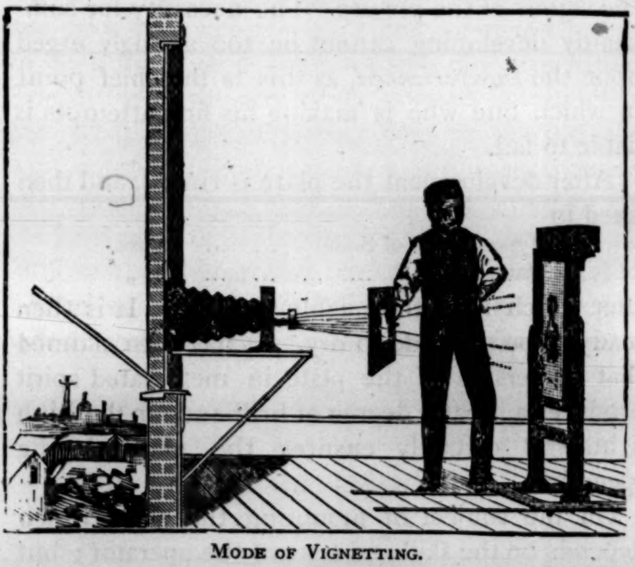
Place your easel squarely in front of the camera. The size of the enlargement will depend on the focus of the lens and the distance that the easel is set from the negative. Move the easel back and forward until you have the required size. Then proceed to focus the enlarged image sharp. Now put the cap on the lens. At this stage of the operation it is necessary to have a ruby lamp in the room.

Another method of improvising an apparatus is to construct a shutter for the window, and cut a hole in the shutter two sizes larger than the largest negative to be enlarged from. Fit into the opening a frame about two or three inches deep, glazed on the outside with a sheet of ground glass. On the inside edges of the frame, top and bottom, arrange grooves in which to slide the negative. Now on a table or shelf, adjusted in front of the negative box, place an ordinary camera, having the ground glass removed. Point the lens toward the negative, and connect the lens and negative box by means of a bag of opaque cloth, open at both ends, and provided with elastic band to close it tight around the lens and negative box. This will prevent any light coming into the dark room. If there are other windows in the room, they can be darkened with curtains.

Take a sheet of bromide paper, pin it on the easel, uncap the lens and give it the proper exposure, which will vary from a few seconds to several minutes, according to the strength of the negative and light. If you are uncertain about the necessary time of exposure, pin a small piece of bromide paper on the easel to cover the most important part of the picture, expose and develop.

This trial exposure ought to show you just how long to expose the full sheet of bromide paper, and will prevent waste. The best exposure is not less than twenty or thirty seconds. The lens can be stopped down to decrease the light if necessary. By giving the proper time of exposure, you can make a strong print from a comparatively weak negative, and *vice versa*. In fact, we have more latitude with the bromide process than any other photographic process known.

To make a vignette picture, the operator, standing at the left and half facing easel, should screen the lens with a piece of card board about 16 by 20 inches. A hole of the proper shape for the vignette is cut in the centre. Having uncapped the lens, the vignetter should be moved back and forth from the lens to the easel. Continue this movement through the entire exposure. Additional time can be given on any part of the image that may need it, by cutting a smaller hole in the same size card board and proceeding about the same as when vignetting. On landscapes extra time may be given on the sky by shading the balance of image with a piece of card board of the proper shape; the most beautiful sky effects can be produced in this way.



Mode of Vignetting.

The developer may be as follows :—

No. 1.

Oxalate of potash	1 pound.
Acetic acid	3 drachms.
Water	48 ounces.

No. 2.

Proto-sulphate of iron	1 pound.
Water	32 ounces.

No. 3.

Bromide potassium	1 ounce.
Water	1 quart.

To develop, take of No. 1, six ounces; of No. 2, 1 ounce; andof No. 3, half a drachm. Care should be used in measuring No. 3, as an excess of bromide will produce too great a contrast, and too little will have a tendency to flatness. If you prefer to have your picture come up slowly, this developer can be diluted with one-third the amount of water. In a suitable tray, soak the exposed print in clean water until limp. Then pour off the water and flow with the developer. The image should develop up strong, clear, and brilliant. When the shadows are sufficiently black, pour off the developer, and flow the print with the clearing solution, which consists of acetic acid, 1 drachm; water, 32 ounces. Use a sufficient quantity to flow over the print. Allow it to act for one minute. Then pour it off and apply a fresh portion. Repeat the operation a third time. Then rinse in water and immerse for about ten minutes in the fixing bath—hypo-sulphite of soda, 3 ounces; water, 16 ounces. After fixing, wash thoroughly for about two hours, and hang the print up to dry. A good method to force an obstinate spot on the print when developing, is to dip the fingers into the developer and slightly rub the obstinate part. Care should be used not to overdo it, and to have no other chemicals on the fingers, as it would leave a stain.

Beautiful results on bromide paper are also obtainable with the hydroquinone developer.

To mount, wet the print, brush over the back with a thin starch paste. Lay the print on the mount and rub down with a soft damp sponge. Some operators would like to see the print retain the gloss, as when in the water; this can be done by squeezing the print face down on a polished piece of hard rubber. When dry the print will peel off with a fine glossy surface.

A higher polished surface can be attained by enamelling with plain collodion on a plate glass.

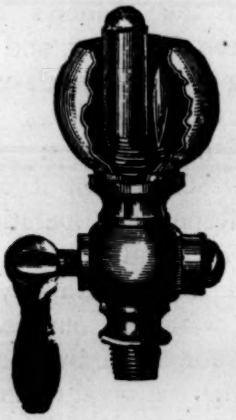
Amateur Society of New York.

Transparencies on Gelatine Plates.

TRANSPARENCIES can be made from any desirable negative at night, using common gas for an illuminant.

Having placed the negative in an ordinary printing frame face upwards, proceed (in the dark room) to lay upon it, face downwards, a gelatine plate, then close the frame and expose to a gas flame for a few seconds according to the density of the negative.

By far the most convenient arrangement for this purpose is to have the gas laid on to an ordinary dark-room lamp, and also to a separate bracket for exposing purposes, this latter being fitted with a form of burner recently introduced, by means of which a light may be immediately produced or extinguished at will by simply turning a knob; a small by pass-jet, which is protected, ignites the burner by turning the handle or knob. This indispensable adjunct to the transparency printing room is shown in the cut. For the purpose of exposing transparencies this will be found to be of great value, as it does not necessitate the opening of the dark room lantern. As will be seen, the production of an actinic or non-actinic light is under the control of one hand, the non-actinic lamp being kept burning.



After the plate has been exposed it may either be put away while others are being exposed, or developed at once. For this purpose it is laid, face up, in a tray or developing dish; and after being rinsed with water, in order to remove all traces of a greasy character, developed.

The most popular and recent form of developer is that in which hydroquinone plays the all-important part. A good formula for this is the following:—

A—	Hydroquinone	15 grains.
	Cryst. Sulphite of Soda... ...	75 „
	Water	5 ozs.
B—	Carbonate of Soda (pure) ...	90 grains.
	Water	5 ozs.
C—	Bromide of Potassium Distilled Water	10 or 15 per ct. solution.

For use take equal parts of A and B, and if it is necessary to use a restrainer, one or two drops of C; with this the plate is flooded, and a slight rocking motion given to the dish. In a short space of time the picture will begin to appear.

The development is continued, not only until all the detail is out, but considerably beyond, or until it has—to a novice—the appearance of being overdone; for it must be remembered that the transparency is for exhibition by transmitted light, and upon the density, to a certain degree, depends the vigour of the picture. The necessity for sufficiently developing cannot be too strongly urged upon the *inexperienced*, as this is the chief point in which one who is making his first attempts is liable to fail.

After development the plate is rinsed, and then fixed in

Hyposulphite of Soda	2 ozs.
Water	12 „

after which it is thoroughly washed. It is then ready to be set aside to dry. It has been claimed that immersion of the plate in methylated spirit produces a greater degree of brilliancy in the high lights; it certainly ensures the plate drying speedily.

On the subject of mounting the slide, much depends on the skill and taste of the operator: but the details respecting this important department will be treated upon subsequently.

◆

PROJECTION.—A magnified image of a picture or of any phenomenon when thrown upon a screen by means of sunlight and lenses, or with a magic lantern, is called a projection.

MOONLIGHT EFFECT.—A charming moonlight effect may be temporarily imparted to a picture by the expedient of inserting with the slide a small square of greenish-blue glass. The same effect may also be produced by interposing such a piece of glass in the rays of light in front of the lantern objective.

TITLES ON PHOTOGRAPHS.—To write a title on a photograph so that it will appear in white letters, an ink composed of a strong solution of cyanide of potassium, a little iodine, and sufficient gum arabic to prevent it from spreading, will serve the purpose.

Early Photography and the Lantern.

IT has often been asked when the first photograph was projected by the aid of the lantern, and by whom. The following appeared in the *New York Times* towards the end of 1853:—Portraits from Daguerreotype.—Happening, a few days since, to be at the studio of Mr. Ransom, of the University Building on Washington Square, he showed us a mode, invented by himself, of painting portraits from daguerreotypes, which cannot fail to produce very important results in portrait painting. It is purely mechanical, and consists of so placing the daguerreotype as to throw an exact copy of it, magnified to any required size, upon canvas placed at the distance of a few feet from it. In this way a most accurate likeness, the size of life, is projected upon canvas from a daguerreotype and may be sketched with a crayon, or otherwise, to be finished and coloured with oils afterwards. The utility of the invention consists in enabling the artist to get a perfect copy of the features with infinitely more accuracy and ease than in the ordinary way, whilst it does not interfere in the least with the subsequent finish of the portrait. We saw at his rooms some most remarkable likenesses painted wholly from daguerreotypes in this way without ever having seen the originals.

The Magic Lantern in Photographic Studios.

THERE are various methods besides hanging out sample cases of photographs by which the photographer may extend his business; one way being by the use of the magic lantern, which system is perhaps best adapted for small towns.

Encourage the occasional use of the reception-room for public meetings, by having erected in it a screen at one end and a lantern at a suitable distance.

Prepare transparencies of local scenes and from the negatives of sitters, not merely confining these latter to the aristocratic portion, but including all and sundry likely to make a pleasing picture.

Circulate invitations freely, and the result will be that the public will be entertained and the photographer increase his business, as human nature will cause many persons to get photographed merely for the sake of seeing themselves and letting their countenances be exhibited on an enlarged scale. Others will feel bound to recommend that particular studio as a return for their entertainment, whilst many will desire to obtain local views, particularly views of property in which they may be directly or indirectly interested.

Explosion of a Gas Cylinder.

COMMENTING on the late explosion of a gas cylinder in Dublin, *The Scientific American* says that when one of these cylinders bursts from defective construction and over-pressure, it is merely in the form of a narrow seam, and no damage is done unless the person happens to be near the rupture, then the force of the escaping gas, acting like a gun, will send objects before it to great distances, precisely on the principle of the dynamite air gun. A peculiar accident of this nature came to our attention and is related as follows: Two cylinders of oxygen and hydrogen, placed on their long sides on the floor of a waggon, were being transported over a paved road. A boy was sitting on one of the cylinders. When they had nearly reached their destination a peculiar report was heard, and the driver noticed on looking around that the boy had disappeared. He was found lying unconscious in the street about fifty feet from the waggon. At first he was thought to be dead, but he subsequently recovered and escaped without a scratch. The mystery was never explained, except that the boy says he felt a tremendous breeze of wind pass upward in front of him, and was instantly unconscious.

◆

PROJECTED PICTURES in the lecture room have peculiar advantages over charts and sketches, which are so much and so deservedly praised by modern educators. They arrest attention, as when there came forth fingers of a man's hand and wrote upon the plaster of the wall in Belshazzar's palace. They are not subject to wear and tear like unwieldy picture charts let down from rollers or sorted out of mammoth portfolios, but they follow one another without fuss or confusion, "like the baseless fabric of a vision," and then dissolve away and relieve us from all care.

Applications for Patents, 1889.

No. 37.—January 1, H. Van der Weyde; "Improvements in the production of certain novel magic lantern effects."

No. 114.—January 3, A. R. Wormald; "Apparatus for enlarging negatives by day-light."

No. 494.—January 10, C. Winter; "Improvements in apparatus for taking photographs, exhibiting magic lantern pictures, and the like."

No. 611.—Jan. 12, G. H. West; "Improvements in magic or scientific demonstrating lanterns."

No. 1461.—January 26, W. J. Wilson; "Improvements in photographic transparencies."

No. 1570.—January 29, W. C. Hughes; "Improvements in magic lanterns and in apparatus for use therewith."

No. 3349.—February 25, J. Green; "An improved stripping frame, to be made of any kind of wood, or any kind of metal, for magic lantern slipping slides, with two or three glasses pulling from one end."

No. 3537.—February 27, J. E. Taylor; "An improved arrangement of mirrors and structures for obtaining an optical illusion."

General Wants and Sales.

UNDER this heading will appear—

APPARATUS FOR SALE. BUSINESSES FOR SALE.
SITUATIONS WANTED. ASSISTANTS REQUIRED, &c.
Rates: 20 words, 6d.; each 3 additional words, 1d.

Exchange Column.

THIS column is devoted to the sale or exchange of slides and apparatus. It is no unusual thing for one who has a set of, say, Egyptian, French, or Lake District views, which have been shown season after season to his friends *usque ad nauseam*, to desire a change in favour of Scotch, Swiss, or statuary slides, and this forms a much desired medium for having such changes effected. If it will save trouble in the examination of such slides, and enable each to see what he is to obtain previous to the change being consummated, our readers are at perfect liberty to send them, free of cost, care of the Editor, for examination.

The possessors of lanterns and other apparatus, who desire them to be exchanged for others, will also find this a good channel for effecting such interchange. Those not desiring their names to appear may have a number and initial affixed by the Publisher, but in this case a stamped and addressed envelope should be enclosed for replies. Rates: 20 words, 6d.; each additional 3 words, 1d.

Notes and Queries.

IN this column we purpose replying to all queries, and shall endeavour, whenever the subject is of more than individual interest, to give both the query and answer, or to so frame the letter as to be of value to all.

Selections.

ONE figure changed with another by means of sliding glass plates is very useful in many kinds of experiments, or illustrations of facts and processes.—*Coleman Sellers.*

⁂

I FIND a three-wick to work better than four-wick lamps, and to give as much light.—*T. E. Freshwater.*

⁂

NEGATIVES taken on films are entirely free from halation. —*J. C. Carbutt.*

⁂

TWENTY years ago (1868) my uncle (Col. Mellor, F.R.A.S.) constructed a pair of metal cylinders, and fitted up a pump for compressed gases. He also devised a regulator which worked by the rise and fall of a column of water.—*Edward W. Mellor.*

⁂

A GOOD transparency may be obtained from a cracked negative without showing the crack, if two thicknesses of tissue paper are put over the printing frame, and the latter turned about in the hand before a gas light turned down low. *Ed. Clifton.*

⁂

THE introduction of the magic lantern as an optical instrument supplied the magicians of the seventeenth century with one of their most valuable tools.—*Sir David Brewster.*

⁂

A GOOD portrait lens for the camera is also suitable for a lantern objective; for the lines of light and the angles are in both cases the same.—*L. J. Marcy.*

⁂

SOME of the most startling and curious effects may be produced by throwing a magic lantern phantom on a wreath of smoke instead of a white screen, more especially when a little art is employed to keep entirely hidden the fire from which the smoke arises.—*J. Traill Taylor.*

⁂

WHEN colouring slides, it is a good practise to examine the slides in the lantern as the various stages of the painting progress, taking care to protect it from dust.—*T. C. Hepworth.*

⁂

ALTHOUGH it is of importance to adopt lantern condensers of good construction and quality, it is of far greater importance that good object glasses be used.—*W. J. Chadwick.*

⁂

THE great beauty and variety in the forms seen in the kaleidoscope makes them very desirable objects for projection. —*Professor Dolbear.*

⁂

THE lecture must be the backbone of the entertainment. The slides may be as good as possible, the lenses of the best construction, but if the description of the pictures be faulty, they will avail nothing to satisfy modern taste.—*Henry Cooper.*

⁂

THERE are few scientific enjoyments more acceptable to the social circle than a display of magic lantern pictures, especially if those reflections are portraits of dear friends, of well-known characters, or ot scenery.—*E. B. Finnessy.*

⁂

THERE are few more fascinating pursuits open to the photographic amateur than the preparation of photographic transparencies for the stereoscope and the lantern.—*William Bedford.*

⁂

ANYONE may make lantern slides, and good ones too, and by gas light may get through a dozen in an hour easily.— *Abel Heywood.*